

REMARKS

This application has been carefully considered in connection with the Examiner's action dated August 30, 2002. Claims 1-32 are pending. Claims 1-7 and 26 have been amended by this response. Reconsideration and allowance are respectfully requested in light of the foregoing amendments and the following remarks.

In Claims 1-7, there are deletions of the term "given." In some sections, this word has been replaced with the term "created." This Amendment is for the purpose of further clarification of the claims, and no loss of claim scope is intended or to be construed with this substitution or deletion.

Claims 1 and 6-7 stand rejected under 35 U.S.C. § 112, second paragraph, as being incomplete for omitting structural cooperative relationships of elements. Specifically, the Examiner "submits that there is no meaningful link between a step of creating a set of allocation[s] and the second part of the recited part of the step, 'that define how contacts are distributed from a given business unit to multiple contact type.'" (Office Action, paragraph 4). The language of Claim 1, as amended, states "creating a set of contact allocations that define how contacts are distributed from a given business unit to multiple contact types." A "contact type" can be, for example, a telephone call, a voice mail, a fax, an email, web callback requests, web chats, and so on. (Page 1, lines 12-13). A "business unit" (BU) is a collection of call types. (Page 9, lines 1-2). Call types are based on the dialed number, and possibly other information such as a calling number or caller responses to prompts from a network. (Page 1, lines 27-29).

The Applicant respectfully states that there is a meaningful link between the claim language of "creating a set of (contact) allocations" and "that define how contacts are distributed

from a business unit to multiple contact type(s).” For instance, in FIGURE 1, sales calls are handled by the Sales Calls BU (business unit); therefore these calls are allocated between the Boston Sales Call Type and the Dallas Sales Call Type. “Boston Sales” is one form of call type. A call type can be a telephone call, and a telephone call is one form of contact type. However, the sales and service business units could also allocate other contact types, such as faxes or email, into “sales” or “service,” such as within the ACD. “One of ordinary skill, however, will appreciate that the inventive functionality may be used in any generic ‘contact center’ that handles one or more of the following contact types: telephone calls, voice mails, e-mails, faxes, email, web callback requests, web chats, web voice calls, web video calls and outbound calls, and the like).” (Page 7, lines 1-6). Applicant respectfully submits that the forgoing explanation traverses the rejection of the Examiner, and respectfully requests the 35 U.S.C. § 112, second paragraph, objection be withdrawn as to Claim 1 as amended.

The Applicant also respectfully asserts that there is indeed a meaningful link between “creating a set of given requirement allocations that define how agent requirements are distributed from a contact type to one or more management units.” For instance, within the contact type, a percentage of calls could be allocated to at least one management unit. For example, in FIGURE 1, agent requirements from the Boston Sales Call Type are allocated to the Boston Sales MU (management unit) and the Boston Service MU. The Boston Service MU is able to receive some allocation of Boston Sales calls since some of the agents in the Boston Service MU have the skills to handle a sales call. Applicant respectfully submits that the foregoing explanation successfully traverses the rejection of the Examiner, and respectfully

requests the 35 U.S.C. § 112, second paragraph, objection be withdrawn as to Claim 1 as amended.

The Examiner rejects Claim 1 under 35 U.S.C. § 112, second paragraph. The Examiner states that the recitation in Claim 1 of “how agent requirements” is without antecedent basis. The language of Claim 1, as amended, fully addresses the Examiner’s concerns. As now written, Claim 1 reads in pertinent part “A method of allocating and scheduling requirements for agents in a skills-based contact center environment...” Applicant respectfully submits that the foregoing Amendment successfully overcomes the rejection of the Examiner, and respectfully requests the 35 U.S.C. § 112, second paragraph, objection be withdrawn as to Claim 1 as amended.

The Examiner also rejects Claim 6 under 35 U.S.C. § 112, second paragraph, for the claim language of “wherein the given contact allocations are minimum and maximum.” The Examiner submits “that this [the cited claim language] is unclear about which contact allocation is assigned minimum and maximum.” (Office Action, paragraph 5.) The Applicant amends Claim 6 to recite in pertinent part “wherein the created contact allocations are from the minimum to the maximum contact allocations, wherein the minimum and maximum contact allocations are defined by a user.” Support for this amendment can be found, among other places, on page 4, lines 23-25. “According to the invention, a user may create a set of given minimum or maximum allocations for distributing calls from a BU to multiple call types (ACDs) and for distributing agent requirements from a call type to one or more MUs.” (Page 4, lines 23-25). The created contact allocation is recited in the step of “allocating forecasted contacts and forecasted agent requirements based on the created contact and requirement allocations” of Claim 1.

Applicant respectfully submits that the foregoing explanation successfully traverses the rejection of the Examiner, and respectfully requests the 35 U.S.C. § 112, second paragraph, objection be withdrawn as to Claim 6 as amended.

The Examiner also rejects Claim 7 under 35 U.S.C. § 112, second paragraph, for the claim language of “‘given agent requirement allocations are minimum and maximum.’ The examiner submits that this is unclear about which agent requirement allocation is assigned minimum and which agent requirement is assigned maximum.” (Office Action, paragraph 6.) Applicant amends Claim 7 to recite “wherein the created requirement allocations are minimum and maximum agent requirement allocations.” These requirement allocations are both employed in Claim 1. Applicant respectfully submits that the foregoing Amendment successfully overcomes the rejection of the Examiner, and respectfully requests the 35 U.S.C. § 112, second paragraph, objection be withdrawn as to Claim 7 as amended.

Claims 1-5 and 8-21 stand rejected under 35 U.S.C. § 102(b) as being unpatentable over “ACDs Get Skills-Based Routing” in Business Communications Review, by Maggie Klenke, dated July 1995. Insofar as Klenke may be applied against the claims or these claims as amended, these rejections are overcome or traversed, as appropriate. The Examiner states Klenke discloses “allocating forecasted contacts and forecasted agent requirements based on the given contact and requirement allocations ... (see Klenke, Table 2).” Claim 1 recites, among other things, “creating a set of contact allocations that define how contacts are distributed from a given business unit to multiple contact types ... and allocating forecasted contacts and forecasted agent requirements based on the given contact and requirement allocations.” Applicant traverses the characterization of Table 2 made by the Examiner.

Specifically, in Klenke, there is no disclosure of forecasting for future contacts based upon present contact and requirement allocations. Instead, regarding Table 2, "The next major task in setting up the skills-based routing process is to inventory the agent's skills... Once this inventory [of defining agent skills] is complete, ... customer need categories can be combined to create new skill groups and thereby take advantage of individual agent skill combinations ... The agent skills matrix will often reveal that there are caller needs for which there are no agent skills. This is why it is important to identify caller needs first and agent skills second. It is far better to hire or train agents to meet callers' needs rather than to pigeonhole customers into a narrow list of options derived from agent skill" (Klenke, page 49, Column 2, lines 33 – page 40, column 2, line 3).

However, this is not forecasting for future contacts based upon created contact and requirement allocations, as recited in Claim 1 as amended. Klenke discloses determining a gap in the present group of skilled agents, not allocating forecasted or future contacts and agent requirements based upon the given contact and requirement allocations. In Klenke, no allocation of forecasted agent requirements occur. Instead, present-time skills for a group of agents are discovered and perhaps compensated for through the employment of new agents, and so on. Klenke's matrix is used to create the call types that should be handled on an ACD. These are given in FIGURE 1 and represented as call types and agents with specific skills. For example, Boston's Agent Skills Matrix would look like the following:

Agent	Sales	Service
Agent A	1	
Agent B		1
Agent C	1	2
Agent D	2	1

However, this matrix is not the forecasting and allocation of future contact and agent requirements. Applicant respectfully submits that the foregoing explanation successfully traverses the rejection of the Examiner, and respectfully requests the 35 U.S.C. § 102(b) rejection be withdrawn as to Claim 1 as amended.

An example of forecasting for future contacts, based upon created contact and requirement allocations, can be found in the present Application on page 9, line 23 - page 10, line 4. Referring to FIGURE 1, the lines between business units and call types reflect allocations. Allocations can be generally defined as planning the *future* distribution of a service or support. Support for this definition can be found in the present application. For instance, "The first step is planning, which includes the creation and adjustment of forecasts and the subsequent *allocation* of the forecast to each work group in a single or multi-site call center configuration. These allocations are called plans. Plans are derived from either a static allocation or dynamic allocation based on a prediction of the number of available agents at each site." (Present Application, page 7, lines 19-23; *emphasis added*).

In the present Application, an example of allocating is on page 9, wherein it says that “two levels of allocations are implemented when BUs are utilized in a skills-based routing environment. The first level is to allocate a percentage of BU calls to multiple ACDs (call types). The second level is to allocate requirements from each ACD call type to one or more MUs. These levels are illustrated in FIGURE 1.” (Present Application, page 9, lines 12-15.) In other words, in FIG. 1, the sales calls and the service calls are calculated and distributed for *future* use. This is in contrast to Klenke, wherein there is no planning for the future, and instead an agent skills matrix is created to determine if agent skills align with present caller needs. That is, are there any agents available to handle each queue on the ACD for the various created call types. If there are no agents with the necessary skills, then calls could go to a queue that is not staffed.

Amended Claims 2-5 and 8-16 depend from and further limit independent amended Claim 1 in a patentable sense, and, for this reason and the reasons set forth above, are also deemed to be in condition for allowance. Accordingly, it is respectfully requested that the rejections of dependent Claims 2-5 and 8-16 be withdrawn, as well.

The Examiner states that independent Claim 17 is rejected for having limitations similar to the limitations of Claim 1 (Office Action, paragraph 7.O.). Applicant respectfully states that the Examiner’s rejection of Claim 17 is traversed for similar reasons as stated above regarding Claim 1, such as reasons pertaining to allocating forecasted calls and forecasted agent requirements based on the given contact and requirement allocations. Applicant therefore respectfully requests withdrawal of the rejection, and allowance of Claim 17.

Claims 18-21 depend from and further limit independent Claim 17 in a patentable sense, and, for this reason and the reasons set forth above, are also deemed to be in condition for allowance. Accordingly, it is respectfully requested that the rejections of dependent Claims 18-21 be withdrawn, as well. For the foregoing reasons and for other reasons clearly apparent, Applicant respectfully requests full allowance of Claims 18-21.

Claims 22-32 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Klenke in view of the "Official Notice" generated by the Examiner in the Office Action. The Official Notice states that "assigning a percentage of telephone calls in ACD center to one contact type was done in the past." (Office Action, paragraph 8.E.). Insofar as these rejections are applied against the claims or the claims as amended, these rejections are overcome or traversed, as appropriate, for such reasons as those reasons given below.

The Examiner states that Klenke discloses "allocating agent requirements for a given call type to one management unit" (Klenke, pg 48, 2:4-12). Page 48, column 2, lines 4-12 read as follows:

"The newer system feature allows the ACD to leave the call in queue with the initial group and continuously check or simultaneously queue the call in all of the other agent groups defined for it. This feature expands the pool of agents who might potentially handle the call. When this feature is used alone, each agent can be logged into only one group at a time, and skill sets must be defined by group."

This is not allocating agent requirements for a given call type. In the present Application, allocation is associated with planning, which "includes the creation and adjustment of forecasts and the subsequent allocation of the forecast to each work group in a single or multi-site call center configuration. These allocations are called plans." However, in the cited section of Klenke, real-time call routing is disclosed, not allocative planning, which, in general, is done



before and in advance of the call routing. Instead, Klenke states "*The concept of creating an optimal set of schedules for a long period is meaningless, for all practical purposes.*" (Page 51, column 1, lines 56-58). Klenke teaches away from the forecasting performed by the invention of Claim 22. Applicant respectfully submits that the foregoing explanation successfully traverses the rejection of the Examiner, and respectfully requests the 35 U.S.C. § 103(a) objection be withdrawn as to Claim 22. Applicant therefore respectfully requests withdrawal of the rejection, and allowance of Claim 22.

The Examiner also states that "Official Notice is taken here that assigning a percentage of telephone call[s] in ACD center to one contact type was done in the past; e.g., in order to change from an old service to a new technology, the transition must be smooth, continuous and assigning a percentage of call[s] to one contact type had been done to solve that problem." (Office Action, paragraph 8.E.). The Applicant respectfully requests that the Examiner support his position with cited prior art.

It is therefore submitted that Claim 22 clearly and precisely distinguishes over the cited combinations of references in a patentable sense, and are therefore allowable over those references and the remaining references of record. Accordingly, it is respectfully requested that the rejection of Claim 22 under 35 U.S.C. § 103 as being unpatentable over Klenke in view of the Official Notice be withdrawn. For the foregoing reasons and for other reasons clearly apparent, Applicant respectfully requests full allowance of Claim 22.

Claims 23-25 depend from and further limit independent Claim 22 in a patentable sense, and, for this reason and the reasons set forth above, are also deemed to be in condition for allowance. Accordingly, it is respectfully requested that the rejections of dependent Claims 23-

25 be withdrawn, as well. For the foregoing reasons and for other reasons clearly apparent, Applicant respectfully requests full allowance of Claims 23-25.

The Examiner also states that Claim 25 "is also obvious with e-calendar." (Office Action, paragraph 8.D.) Applicant traverses the rejection. Applicant's representative phoned and discussed with the Examiner on January 15, 2003, what constituted an "e-calendar." The Examiner with courtesy informed the Applicant's representative one example of an e-calendar can be found in, for instance, the "calendar" option of Microsoft Outlook®. Although the e-calendar of Microsoft Outlook® can be used to schedule for future events, it does not allocate. In other words, the calendar does not plan for the future. The e-calendar of Microsoft Outlook® **does not simulate a call center agent working their schedule.** The e-calendar of Microsoft Outlook® is instead employed to record information input into it without substantial processing or prediction.

It is therefore submitted that Claim 25 clearly and precisely distinguishes over the cited reference and the Official Notice in a patentable sense, and is therefore allowable over this reference. Applicant therefore respectfully requests the withdrawal of the rejection and allowance of Claim 25. Accordingly, it is respectfully requested that the rejection of Claim 25 under 35 U.S.C. § 103 as being unpatentable over Klenke in view of the Official Notice be withdrawn.

The Examiner rejects Claim 26. The Examiner states that one of the recited steps of Claim 26, that of "allocating agent requirements for a given contact type to one management unit" is disclosed in Klenke, p. 48, 1:39 - 41 and p. 49, Table 1. Applicant respectfully disagrees with the Examiner. Page 48, column 1, lines 39-41 state "[the] first feature is the capability of

the system to queue a call to more than one agent group at the same time.” This is not allocating agent requirements. As discussed above, allocating agent requirements is associated with predicting the future, not the real-time distribution of telephone calls, to which Klenke is generally directed. Furthermore, Table 1 is a listing of the types of skills combinations. This is similar to the list of “Sales” and “Service” in the agent skills matrix table above. This is not an allocation of future agent requirements. Klenke states that “[the] concept of creating an optimal set of schedules for a long period is meaningless, for all practical purposes.” (Page 51, column 1, lines 56-58). This is in contrast to allocating agent requirements for a given call type to one or more management units, as is claimed in independent Claim 26. Furthermore, the Applicant traverses the Official Notice of the Examiner, and requests that the Examiner cite with particularity to references that disclose that “assigning a percentage of telephone call[s] in ACD center to one contact type was done in the past...” (Office Action, paragraph 8G).

It is therefore submitted that Claim 26 clearly and precisely distinguishes over the cited reference in a patentable sense, and is therefore allowable over this reference. Applicant therefore respectfully requests the withdrawal of the rejection and allowance of Claim 26. Accordingly, it is respectfully requested that the rejection of Claim 26 under 35 U.S.C. § 103 as being unpatentable over Klenke in view of the Official Notice be withdrawn.

Claims 27-29 depend from and further limit independent Claim 26 in a patentable sense, and, for this reason and the reasons set forth above, are also deemed to be in condition for allowance. Accordingly, it is respectfully requested that the rejections of dependent Claims 27-29 be withdrawn, as well.

Although Claim 30 is referenced on a 35 USC 103(a) rejection (Office Action, paragraph 8), the rejection of Claim 30 is not referred to again. Claim 30 as amended recites, among other things, "predicting agent availability by task type to generate agent availability data." Applicant respectfully asserts that neither Klenke nor the Official Notice, either singularly or in combination, disclose, among other things, "predicting agent availability by task type to generate agent availability data."

It is therefore submitted that Claim 30 clearly and precisely distinguishes over the cited combinations of references in a patentable sense, and is therefore allowable over those references and the remaining references of record. Accordingly, it is respectfully requested that the rejection of Claim 30 under 35 U.S.C. § 103 as being unpatentable over Klenke in view of the Official Notice be withdrawn.

Claims 31-32 depend from and further limit independent Claim 30 in a patentable sense, and, for this reason and the reasons set forth above, are also deemed to be in condition for allowance. Accordingly, it is respectfully requested that the rejections of dependent Claims 31-32 be withdrawn, as well.

Applicant has now made an earnest attempt to place this application in condition for allowance. For the foregoing reasons and for other reasons clearly apparent, Applicant respectfully requests full allowance of Claims 1-32.

Enclosed is a check in the amount of \$410.00 for two (2) month's extension of time in which to respond to the Office Action dated August 30, 2002. Applicant does not believe any other fees are due in connection with the filing of this paper; however, in the event that any fees are due, the Commissioner is hereby authorized to charge any required fees due (other than issue

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fee), and to credit any overpayment made, in connection with the filing of this paper to Deposit Account No. 50-0605 of the CARR LAW FIRM, L.L.P.

Should the Examiner have any questions or desire clarification of any sort, or deem that any further amendment is desirable to place this application in condition for allowance, the Examiner is invited to telephone the undersigned at the number listed below.

Respectfully submitted,

Date:

1/29/03

  
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**AMENDMENT  
VERSION WITH MARKINGS TO SHOW CHANGES MADE**

In the Claims:

1. (AMENDED) A method of allocating and scheduling requirements for agents in a skills-based contact center environment organized into a hierarchy of one or more business units at a first level, one or more contact types at a second level, and one or more management units at a third level, comprising:

creating a set of [given] contact allocations that define how contacts are distributed from a given business unit to multiple contact types;

creating a set of [given] requirement allocations that define how agent requirements are distributed from a contact type to one or more management units; and

allocating forecasted contacts and forecasted agent requirements based on the [given] created contact and requirement allocations.

2. (AMENDED) The method as described in Claim 1 wherein the [given] created contact allocations are at least minimum contact allocations, wherein the minimum contact allocations are defined by a user.

3. (AMENDED) The method as described in Claim 2 wherein the [given] created requirement allocations are minimum agent requirement allocations.

4. (AMENDED) The method as described in Claim 1 wherein the [given] created contact allocations are at most maximum contact allocations, wherein the maximum contact allocations are defined by a user.

5. (AMENDED) The method as described in Claim 4 wherein the [given] created requirement allocations are maximum agent requirement allocations.

6. (AMENDED) The method as described in Claim 1 wherein the [given] created contact allocations are from the minimum [and] to the maximum contact allocations, wherein the minimum and maximum contact allocations are defined by a user.

7. (AMENDED) The method as described in Claim 6 wherein the [given] created requirement allocations are minimum and maximum agent requirement allocations.

26. (AMENDED) An allocation method operative in a skills-based contact center environment[;], comprising:

organizing the contact center environment into a hierarchy of zero or more business units at a first level, one or more contact types at a second level, and a set of one or more management units at a third level; [and]

allocating a percentage of contacts from a given business unit to one or more contact types; and

allocating agent requirements for [a given] the one or more contact [type] types to one or more management units.